

INTRODUCTION:

Estimation of cardiovascular risk has become the cornerstone of cardiovascular disease prevention. Although atherogenesis is a multifactorial process, abnormalities in lipoprotein metabolism especially elevated LDL remains one of most attributing key factor.

The Adult Treatment Panel III has recognised importance of high Triglyceride and low HDL in cardiovascular disease calling this combination an atherogenic dyslipidemia along with raised LDL. The Atherogenic Index of Plasma, defined as logarithm of ratio of concentration of TGL to HDL cholesterol correlates well with **size of HDL and LDL particles and with fractional esterification rate of HDL cholesterol.**

AIP has been proposed as a marker for cardiovascular risk. And it can be easily calculated from standard lipid profile. It adds predictive value beyond that of individual lipids especially in conditions like clinical manifestations of atherogenesis without alteration in lipid profile.

AIM:

To study Atherogenic Index of Plasma (AIP) in male Acute Coronary Syndrome patients with normal serum lipid profile and to compare it with age matched apparently healthy persons.

STUDY DESIGN:

Observational Case control study

SAMPLE SIZE:

Total: 100

Study group: 50

Control group: 50

STUDY GROUP:

Male Patients admitted in Medicine or Cardiology ward following first episode of Acute Coronary Syndrome.

MATERIALS AND METHODOLOGY:

FOR STUDY GROUP:

After obtaining permission from Department of Cardiology and Department of Medicine, Government Rajaji Hospital , Madurai , Hemodynamically Stable patients on day 2 of admission following Acute Coronary Syndrome confirmed by ECG changes or elevated cardiac biomarkers or both was selected.

After getting informed written consent, detailed history was taken. General and Systemic examination was done. Under strict aseptic precaution, Blood sample was collected after 9 hours of fasting.

FOR CONTROL GROUP:

Male persons attending Master health checkup was selected according to inclusion and exclusion criteria. Serum Lipid profile was estimated and those people with normal values were taken as control group

Atherogenic Index of Plasma (AIP) was calculated using the formula below (after converting TGL and HDL – C values to mmol / lt)

$$\text{AIP} = \text{Log (TGL / HDL – C) expressed in mmol / lit.}$$

Based on the values they can be graded as

Value of Atherogenic Index of Plasma (AIP)	Risk
-0.3 - 0.10	Low risk
0.11 – 0.21	Intermediate risk
> 0.21	Increased risk

ANALYSIS AND RESULTS:

The values of **Atherogenic Index of Plasma (AIP)** of study and control group was analysed. The **statistical significance** was made at '**p**' value < **0.05**. When comparing the Atherogenic Index of Plasma between cases and controls, it showed a statistically **significant 'p' value of 0.002**.

CONCLUSION:

Hence on comparison between study and control group, this study concludes that High AIP had more incidence of ACS inspite of normal lipid profile. AIP can be taken as independent risk factor in causation of clinical events of atherosclerosis.

KEYWORDS:

Atherogenic Index of Plasma, Acute Coronary Syndrome, lipid profile